APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,112	07/28/2006	Sathya R. Narayanan	MATI-234US	8907

52473   7590   11/07/2008
RATNERPRESTIA
P.O. BOX 980
VALLEY FORGE, PA 19482

EXAMINER
JAMA, ISAAK R

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
11/07/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/564,112	NARAYANAN ET AL.
Office Action Summary	Examiner	Art Unit
	ISAAK R. JAMA	2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *01/10/2006*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Claim Objections

1.   Claim 7 is objected to because of the following informalities: Claim 7 recites "…a

highest priority level in <u>the list</u>….". Since claim 7 depends on claims 5 and 1, there is no

mention of a list in either of those claims; as such, it lacks antecedent basis. Appropriate

correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

1.   Claims 1-3 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent Application Publication Number 2002/0151325 (Fitton et al.) in view of

U.S. Patent Application Publication Number 2003/0220121 (Konishi et al.).

2.   As to claims 1, 10, Fitton teaches a method for hand-off of mobile devices

between a plurality of access points comprising the steps of: receiving, at a first mobile

device, connection information for establishing a wireless connection between the

mobile device and one of the plurality of access points; transmitting the connection

information from the first mobile device to one or more other mobile devices to assist

the one or more other mobile devices in making a connection to the access point

(Figure 1, # 105, page 3, paragraph 0034).

But Fitton fails to specifically teach storing the received connection information. Konishi teaches a radio communication system for notifying incommunicable state whereby communication history table stores connection information on a cellular phone, connection information on hot spot computer, and the time when the communication line between cellular phone and hot spot computer is disconnected (Page 8, paragraph 0117).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the system of Konishi in the device of Fitton in order for the device to utilize the information in future uses.

3.   As to claims 2 and 11, Fitton teaches a method wherein the connection information is data link level connection information and the step of transmitting the stored information includes the step of periodically transmitting the connection information through a channel used by the first mobile device to communicate with a current access point (Page 1, paragraph 0013; i.e. a communication device adapted to send/receive network information of the first network over a second network).

But Fitton fails to specifically teach storing the received connection information. Konishi teaches a radio communication system for notifying incommunicable state whereby communication history table stores connection information on a cellular phone, connection information on hot spot computer, and the time when the communication line between cellular phone and hot spot computer is disconnected (Page 8, paragraph 0117).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the system of Konishi in the device of Fitton in order for the device to utilize the information in future uses.

4.   As to claims 3 and 12, Fitton further teaches a method wherein the connection information is data link level connection information and the step of transmitting the stored information includes the step of periodically transmitting the connection information through a channel used by the first mobile device to communicate with a prior access point (Page 2, paragraph 0025; i.e. in the case where two devices in the WPAN are connected to different radio networks, and the first device wishes to switch over to the network of the second device, the second device initiates a connection or handover request to its radio network on behalf of the first device).

5.   Claims 4-7, 9, 13, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2002/0151325 (Fitton et al.) in view of U.S. Patent Application Publication Number 2003/0220121 (Konishi et al.) and further in view of U.S. Patent Number 7,146,636 (Crosbie).

6.   As to claims 4, 5, 13 and 14, Fitton and Konishi teach the limitation of claims 1 and 10, above.

But the combination of Fitton and Konishi fail to disclose a step of assigning a priority level to the information based on distance between the mobile device and each of the access points and storing the information to a list organized according to the priority level, the method further comprising the steps of: monitoring relative distance between the first mobile device and each of the stored access points based on position

information included with the stored access point information to maintain the priority list; and establishing a new wireless connection between the first mobile device and another one of the plurality of access points according to the received information having a highest priority level, when signal strength goes below a predetermined threshold value.

Crosbie disclose a method and system for enabling centralized control of wireless LANs, whereby one of the masters is maintaining a connection to a particular slave and signals to the controller that there is weakening reception for that slave as indicated by increased packet loss on the PPP link to that particular slave (this data is easily available from the PPP controller), and/or by another indication of weakening reception, such as RSSI (Received Signal Strength Indication) (column 3, lines 22-29). In addition, Crosbie teaches that an implementation of an IEEE 802.11 provides that a look-up table be expanded to include a new category called "watch out", a category that includes device addresses and spoofing channels that the access point should look out for. When the access point receives packets with one of these device addresses, at a receiver signal strength (RSSI) above a certain predefined (i.e. threshold) signal strength then the access point sends a notification packet to the controller or roaming server (column 13, lines 6-16).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method of Crosbie in the combined system of Fitton and Konishi in order for the mobile to have a strong connection.

7.   As to claims 6 and 7, Fitton and Konishi teach the limitations of claim 5 above. But neither Fitton nor Konishi specifically teach that the steps of assigning a priority

level to the information and storing the information to a list organized according to the priority level, and attempting to establish the new wireless connection according to the connection information having the highest priority level.

Crosbie teaches a method and system for enabling centralized control of wireless LANs, whereby when a mobile device moves to a new connection and starts to send packets, the roaming server looks up the mobile device in the device database, and according to the user service level data and WLAN loading, the roaming server might decide that the mobile device should be communicating via another connection that is covering that mobile device. That is, one access point may offer a higher level of available bandwidth (i.e., lower level of congestion) for the mobile device than another access point that has less bandwidth available (column 9, lines 12-21).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method of Crosbie in the combined system of Fitton and Konishi in order to minimize the load on anyone of the access points.

8.   As to claim 9, Fitton and Konishi teach the limitations of claim 1 above.

But neither Fitton nor Konishi specifically teach that the connection information is a level 2 and/or a level 3 connection.

Crosbie discloses a method and system for enabling centralized control of wireless LANs, whereby once the devices are synchronized it is possible to set up a PPP session (point-to-point; i.e. layer-2 connection) from a slave (e.g., mobile device) to the master (e.g., AP), and hence link the slave through the master to an Ethernet LAN

connected to the master. The AP normally terminates the PPP session, and so the data is then sent and received as level 2 IP packets (i.e. internet protocol (IP) is a level-3 connection) to any suitable device (column 2, lines 61-66).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method of Crosbie in the combined system of Fitton and Konishi in order for the mobile to have a seamless transition.

9.   As to claim 16, Fitton teaches a method for hand-off of mobile devices between a plurality of access points comprising the steps of: receiving, at a first mobile device, network level connection information for establishing a connection between the mobile device and a current one of the plurality of access points; storing the received connection information; detecting when one or more mobile devices establish a connection to the access point; and transmitting the connection information from the first mobile device to one or more other mobile devices to assist the one or more other mobile devices in making a connection to the access point (Figure 1, # 105, page 3, paragraph 0034). And Konishi teaches a radio communication system for notifying incommunicable state whereby communication history table stores connection information on a cellular phone, connection information on hot spot computer, and the time when the communication line between cellular phone and hot spot computer is disconnected (Page 8, paragraph 0117).

But neither Fitton nor Konishi specifically teach that the connection information is a level 2 and/or a level 3 connection.

Crosbie discloses a method and system for enabling centralized control of wireless

LANs, whereby once the devices are synchronized it is possible to set up a PPP

session (point-to-point; i.e. layer-2 connection) from a slave (e.g., mobile device) to the

master (e.g., AP), and hence link the slave through the master to an Ethernet LAN

connected to the master. The AP normally terminates the PPP session, and so the data

is then sent and received as level 2 IP packets (i.e. internet protocol (IP) is a level-3

connection) to any suitable device (column 2, lines 61-66).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to include the method of Crosbie in the combined

system of Fitton and Konishi in order for the mobile to have a seamless transition.

10.   Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent Application Publication Number 2002/0151325 (Fitton et al.) in view of U.S.

Patent Number 7,047,015 (Hawe).

11.   As to claims 8 and 15, Fitton and Konishi teach the limitations of claim 1 above.

But neither Fitton nor Konishi specifically teach that step of adjusting transmission

power to increase or decrease coverage range according to predetermined criteria.

Hawe teaches an apparatus for self-adjusting power at a wireless station

(abstract).

Therefore, it would have been obvious to a person of ordinary skill in the art at the

time the invention was made to include the method of Hawe in the combined system of

Fitton and Konishi in order to minimize interference.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Number 6,917,804 (Takayama et al.) teaches a high-speed roaming method for a wireless LAN. U.S. Patent Number 6,834,192 (Watanbe et al.) teaches a method and associated apparatus, for effectuating handover of communications in a bluetooth, or other, radio communication system. U.S. Patent Number 7,116,979 (Backes et al.) teaches a wireless channel selection method and system using scanning for identifying access point. U.S. Patent Application Publication Number 2003/0087646 (Funato et al.) teaches a geographically adjacent access router discovery and caching for mobile nodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAK R. JAMA whose telephone number is (571)270-5887. The examiner can normally be reached on 7:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/IRJ/

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617